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NOTICE OF ALLOWANCE AND FEE(S) DUE

57960 7590 08/05/2010

PVF -- ORACLE AMERICA, INC.
C/O PARK, VAUGHAN & FLEMING LLP
2820 FIFTH STREET
DAVIS, CA 95618-7759

EXAMINER	
CHEN, QING	
ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 08/05/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,309	08/22/2003	Gregory M. Wright	SUN-P9042	9198

TITLE OF INVENTION: REDUCING THE OVERHEAD INVOLVED IN EXECUTING NATIVE CODE IN A VIRTUAL MACHINE THROUGH BINARY REOPTIMIZATION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$0	$0	$1510	11/05/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,309	08/22/2003	Gregory M. Wright	SUN-P9042	9198

TITLE OF INVENTION: REDUCING THE OVERHEAD INVOLVED IN EXECUTING NATIVE CODE IN A VIRTUAL MACHINE THROUGH BINARY REOPTIMIZATION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$0	$0	$1510	11/05/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHEN, QING	2191	717-157000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1_____

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2_____ 3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER	
CHEN, QING	
ART UNIT	PAPER NUMBER
2191	

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 944 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 944 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/646,309	WRIGHT ET AL.	
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed on May 17, 2010*.

2. ☒ The allowed claim(s) is/are *1,2,4-6,10,11,13-15 and 28-35, renumbered as 1-18*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. This Office action is in response to the amendment filed on May 17, 2010.

2. **Claims 1, 2, 4-6, 10, 11, 13-15, and 28-35** are pending.

3. **Claims 1, 2, 4-6, 9-11, 13-15, 18, 28, 29, 31-33, and 35** have been amended.

4. **Claims 3, 7-9, 12, 16-27, and 36-39** have been canceled.

5. **Claims 1, 2, 4-6, 10, 11, 13-15, and 28-35** are allowed, renumbered as 1-18.

6. The objections to Claims 2, 9, 11, and 18 are withdrawn in view of Applicant's amendments to the claims or Examiner's amendments to the claims.

7. The 35 U.S.C. § 112, second paragraph, rejections of Claims 32-35 are withdrawn in view of Applicant's amendments to the claims.

Examiner's Amendment

8. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this Examiner's amendment was given in a telephone interview with Anthony Jones (Reg. No. 59,521) on July 27, 2010.

The application has been amended as follows:

AMENDMENTS TO THE CLAIMS

In the "Amendments to the Claims" (received on 05/17/2010), please cancel Claims 7-9 and 16-18 and amend Claims 1, 2, 6, 10, 11, 15, 28, 31, 32, and 35 as follows:

1. (Currently Amended) A method for reducing an overhead involved in executing native code methods in an application running on a virtual machine, comprising:

selecting a call to any native code method to be optimized within the virtual machine;

decompiling at least part of the native code method for the selected call into an intermediate representation, wherein an intermediate representation includes a set of instruction code which is not in final executable form, wherein decompiling at least the part of the native code method involves setting up a context for a decompilation by determining a signature of the selected call and determining a mapping from arguments of the selected call to corresponding locations in a native application binary interface (ABI);

obtaining [[an]] a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the selected call;

integrating the intermediate representation for the native code method for the selected call into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and

generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing interactions between the application running on the virtual machine and the native code method for the selected call, wherein optimizing the interactions involves optimizing calls from the

application to the native code method for the selected call by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect references associated with the calls from the application to the native code method for the selected call.

2. (Currently Amended) The method of claim 1, wherein selecting the call to any native code method involves selecting the call based upon at least one of:

an execution frequency of the selected call; and

an overhead involved in performing the selected call as compared against an amount of work performed by the native code method for the selected call.

6. (Currently Amended) The method of claim 4,

wherein the virtual machine is a platform-independent virtual machine; and

wherein integrating the intermediate representation for the native code method for the selected call with the previously-generated intermediate representation associated with the application running on the virtual machine involves integrating calls provided by an interface for accessing native code into the native code method for the selected call.

7-9. (Canceled)

10. (Currently Amended) A computer-readable storage device storing instructions that when executed by a computer cause the computer to perform a method for reducing an overhead

involved in executing native code methods in an application running on a virtual machine, the method comprising:

selecting a call to any native code method to be optimized within the virtual machine;

decompiling at least part of the native code method for the selected call into an intermediate representation, wherein an intermediate representation includes a set of instruction code which is not in final executable form, wherein decompiling at least the part of the native code method involves setting up a context for a decompilation by determining a signature of the selected call and determining a mapping from arguments of the selected call to corresponding locations in a native application binary interface (ABI);

obtaining [[an]] a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the selected call;

integrating the intermediate representation for the native code method for the selected call into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and

generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing interactions between the application running on the virtual machine and the native code method for the selected call, wherein optimizing the interactions involves optimizing calls from the application to the native code method for the selected call by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect

references associated with the calls from the application to the native code method for the selected call.

11. (Currently Amended) The computer-readable storage device of claim 10, wherein selecting the call to any native code method involves selecting the call based upon at least one of:

an execution frequency of the selected call; and

an overhead involved in performing the selected call as compared against an amount of work performed by the native code method for the selected call.

15. (Currently Amended) The computer-readable storage device of claim 13,

wherein the virtual machine is a platform-independent virtual machine; and

wherein integrating the intermediate representation for the native code method for the selected call with the previously-generated intermediate representation associated with the application running on the virtual machine involves integrating calls provided by an interface for accessing native code into the native code method for the selected call.

16-18. (Canceled)

28. (Currently Amended) A method for reducing an overhead involved in executing native code methods in an application running on a virtual machine, comprising:

deciding to optimize a callback by any native code method into the virtual machine;

decompiling at least part of the native code method for the callback into an intermediate representation, wherein an intermediate representation includes a set of instruction code which is not in final executable form, wherein decompiling at least the part of the native code method involves setting up a context for a decompilation by determining a signature of the selected callback and determining a mapping from arguments of the selected callback to corresponding locations in a native application binary interface (ABI);

obtaining [[an]] a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the callback;

integrating the intermediate representation for the native code method for the callback into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and

generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing the callback, wherein optimizing the callback involves optimizing calls from the native code method for the callback to the application by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect references associated with the calls from the native code method for the callback to the application.

31. (Currently Amended) The method of claim 28,

wherein the virtual machine is a platform-independent virtual machine; and

wherein integrating the intermediate representation for the native code method for the callback with the previously-generated intermediate representation associated with the application running on the virtual machine involves integrating calls provided by an interface for accessing native code into the native code method for the callback.

32. (Currently Amended) A computer-readable storage device storing instructions that when executed by a computer cause the computer to perform a method for reducing an overhead involved in executing native code methods in an application running on a virtual machine, the method comprising:

deciding to optimize a callback by any native code method into the virtual machine;

decompiling at least part of the native code method for the callback into an intermediate representation, wherein an intermediate representation includes a set of instruction code which is not in final executable form, wherein decompiling at least the part of the native code method involves setting up a context for a decompilation by determining a signature of the selected callback and determining a mapping from arguments of the selected callback to corresponding locations in a native application binary interface (ABI);

obtaining [[an]] a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the callback;

integrating the intermediate representation for the native code method for the callback into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and

generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing the callback, wherein optimizing the callback involves optimizing calls from the native code method for the callback to the application by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect references associated with the calls from the native code method for the callback to the application.

35. (Currently Amended) The computer-readable storage device of claim 32,

wherein the virtual machine is a platform-independent virtual machine; and

wherein integrating the intermediate representation for the native code method for the callback with the previously-generated intermediate representation associated with the application running on the virtual machine involves integrating calls provided by an interface for accessing native code into the native code method for the callback.

-- END OF AMENDMENT --

Reasons for Allowance

9. The following is an Examiner's statement of reasons for allowance:

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, "obtaining a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the selected call; integrating the intermediate representation for the native code

method for the selected call into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing interactions between the application running on the virtual machine and the native code method for the selected call, wherein optimizing the interactions involves optimizing calls from the application to the native code method for the selected call by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect references associated with the calls from the application to the native code method for the selected call" as recited in independent Claims 1 and 10; and further fail to teach, in combination with the other claimed limitations, "obtaining a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the callback; integrating the intermediate representation for the native code method for the callback into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing the callback, wherein optimizing the callback involves optimizing calls from the native code method for the callback to the application by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect references associated with the calls from the native code method for the callback to the application" as recited in independent Claims 28 and 32.

The closest cited prior art, the combination of US 6,289,506 (hereinafter "Kwong") and US 6,412,109 (hereinafter "Ghosh"), teaches a method for optimizing Java performance using precompiled code. However, the combination of Kwong and Ghosh fails to teach "obtaining a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the selected call; integrating the intermediate representation for the native code method for the selected call into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing interactions between the application running on the virtual machine and the native code method for the selected call, wherein optimizing the interactions involves optimizing calls from the application to the native code method for the selected call by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect references associated with the calls from the application to the native code method for the selected call" as recited in independent Claims 1 and 10; and further fails to teach "obtaining a previously-generated intermediate representation associated with the application running on the virtual machine which interacts with the native code method for the callback; integrating the intermediate representation for the native code method for the callback into the intermediate representation associated with the application running on the virtual machine to form an integrated intermediate representation; and generating a native code from the integrated intermediate representation, wherein generating the native code from the integrated intermediate representation involves optimizing the callback, wherein optimizing the callback

involves optimizing calls from the native code method for the callback to the application by using additional information from the integrated intermediate representation to reduce a number of indirect calls and indirect references associated with the calls from the native code method for the callback to the application" as recited in independent Claims 28 and 32.

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Q. C./

Examiner, Art Unit 2191

/Wei Y Zhen/

Supervisory Patent Examiner, Art Unit 2191